

### Patent Claims

1. Device (1; 100) for processing substrates (2), in particular semi-conductor wafers, with at least one first nozzle (38; 152) essentially concentrically arranged relative to the substrate (2) and a plurality of second nozzles (18; 142) separately controllable relative to the first nozzle, characterized in that the first nozzle (38; 152) is directed perpendicularly onto the substrate (2), so that a fluid emerging from the first nozzle strikes the substrate and projects a radial flow onto the substrate, and in that the second nozzles are directed transverse to the radial flow.
2. Device (1; 100) according to claim 1 or 2, characterized in that the first nozzle (38; 152) is a single point nozzle.
3. Device (1; 100) according to any one of the preceding claims, characterized in that the second nozzles (18; 142; 144) form at least one nozzle group, which runs along a prescribed contour, especially a straight line.
4. Device (1; 100) according to claim 3, characterized in that the straight line extends tangential to the first nozzle (38; 152).
5. Device (1; 100) according to any one of the preceding claims, characterized in that at least one additional nozzle (156) is directed back at the first nozzle (152).

- 5
6. Device (1; 100) according to any one of the preceding claims, characterized in that the second nozzles (18; 142; 144) are directed onto the substrate at an angle of 45°.
7. Device (1; 100) according to any one of the preceding claims, characterized in that the second nozzles (18; 142, 144) are point nozzles.
8. Device (1; 100) according to any one of the preceding claims, characterized in that the first nozzle (18; 152) and the second nozzles (18; 142, 144) can have different pressures.
9. Device (1; 100) according to any one of the preceding claims, characterized in that the first nozzle (18; 152) and the second nozzles (18; 142; 144) can contain different fluids.
10. Device (1; 100) according to any of the preceding claims, characterized in that rinsing fluid can be conducted through the first nozzle (18; 152).
11. Device (1; 100) according to any one of the preceding claims, characterized in that a vacuum can be applied to the first nozzle (18; 152).
12. Device (1; 100) according to any one of the preceding claims, characterized in that a gas can be conducted through the second nozzles (18; 142; 144).
- 10
- 15
- 20

13. Device (1; 100) according to any one of the preceding claims, characterized in that the first nozzle (18; 152), the second nozzles (18; 142) and the additional nozzle (156) are arranged in a common base (10; 120).
- 5 14. Device (1; 100) according to any one of the preceding claims, characterized by an insert (35) that is provided with the first nozzle (38), and which is insertable into the base (10).
- 10 15. Device (1; 100) according to any one of the preceding claims, characterized in that the second nozzles (18; 142; 144) are formed in a nozzle plate (17; 140) of the base (10; 120).
- 15 16. Device (1; 100) according to any one of the preceding claims, characterized by a ring-shaped fluid chamber (22; 146) beneath the nozzle plate (17; 140).
- 20 17. Device (1; 100) according to any one of the preceding claims, characterized by a surface of the base (10) with a plurality of bores surrounding the nozzle plate (17; 140) and lying deeper relative to this nozzle plate and having a corresponding number of spacers (13).
18. Device (1; 100) according to claim 17, characterized in that the spacers (13) are adjustable.

19. Device (1; 100) according to any one of the preceding claims, characterized by an overflow collar (50) on the base (10).
20. Device (1; 100) according to claim 19, characterized by at least one inwardly directed nozzle (55) on the overflow collar (50);
21. Device (1; 100) according to any one of the preceding claims, characterized by a tank surrounding the base (10).
22. Device (1; 100) according to any one of the preceding claims, characterized by a unit (108) for conducting a fluid onto an outer side of a substrate carrier (103) holding a substrate therein.
23. Device (1; 100) according to claim 22, characterized in that the unit (108) is arranged on the substrate carrier (103).
24. Method for processing substrates (2), in particular semiconductor wafers, having the following steps:
- conducting a fluid at a right angle onto a surface of the substrate (2) to be treated via at least one first nozzle (38; 152) arranged substantially concentrically relative to the substrate, so that the fluid strikes the substrate in a radial flow; and

- conducting a fluid onto the surface of the substrate (2) to be treated via a plurality of second nozzles (18; 142) separately controllable relative to the first nozzle and transverse to the radial flow.

- 5            25. Method according to claim 24, characterized in that the fluid is conducted via the second nozzles (18; 142; 144) in essentially the peripheral direction of the substrate (2) onto the surface to be treated.
- 10           26. Method according to claim 24 or 25, characterized in that the fluid is conducted via the second nozzles (18; 142; 144) at an angle of 45° onto the surface of the substrate (2) to be treated.
- 15           27. Method according to any one of claims 24 through 26, characterized in that the fluid is conducted onto the surface of the substrate (2) to be treated with different pressures via the first and second nozzles.
- 20           28. Method according to any one of claims 24 through 27, characterized in that different fluids are conducted via the first and second nozzles onto the surface of the substrate (2) to be treated.
29. Method according to any one of claims 24 through 38, characterized in that a rinsing fluid is conducted via the

first nozzle (38; 152) onto the surface of the substrate (2) to be treated.

30. Method according to any one of claims 24 through 29, characterized in that a vacuum is applied to the first nozzle (38; 152).

31. Method according to any one of claims 24 through 30, characterized in that a gas is conducted via the second nozzles (18; 142; 144) onto the surface of the substrate (2) to be treated.

32. Method according to any one of claims 24 through 31, characterized by conducting a fluid onto an outer surface of a substrate carrier (3) holding a substrate (2) via at least one nozzle (55) arranged in an overflow collar (50) of the device.

*adac*